Any relative reduction of afferent input alters the concurrent and subsequent state of psychological activity. This has been evident ever since man first bedded down to sleep during the dark and silent hours of the diurnal cycle with eyes closed to minimize differences in light stimulation; in a recumbent posture to reduce his anti-gravity tonic postural reflexes; immobile to lessen kinesthetic input; under covers which would reduce changes in touch and temperature and surface pressure. All of this preparatory ritual serves to reduce input to the orienting and alerting mechanisms from distance receptors, and also those closer warnings from variations in pressure and contact on the skin. It also limits the input from muscles, joints, body movement, balance and posture. Therefore what has erroneously been called sensory deprivation (but which is more correctly called relative afferent isolation) has been important to us from time immemorial. More recently it has been subjected to experimental investigation.

For a long time there has been the implication that this also affects the accessibility of past experiences to recall. Yet this paper is one of the first studies which has been made (albeit in a somewhat unorthodox fashion) of the effects of reducing input on the accessibility of repressed material. Studies of this kind can have importance for the theory and technique of psychotherapy and also for understanding the processes of dissociation, repression and recall. It is for this reason that we are publishing this condensation of the long and detailed report which the author has made of his extensive experiments on himself.

The Editors

ENVIRONMENTAL STIMULUS REDUCTION AS A TECHNIQUE TO EFFECT THE REACTIVATION OF CRUCIAL REPRESSED MEMORIES

ANTHONY SURACI[1]

INTRODUCTION

Investigations of the Environmental[2] Stimulus Reduction (ESR) technique have shown that under such conditions subjects experience varying degrees of sensory, motor, perceptual, cognitive and emotional dysfunctioning (2, 3).

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[1] 48 Gerrish Avenue, East Haven, Connecticut. Because of the possibly controversial nature of some of the material in this report, the experimenter wishes to stress the fact that he alone is responsible for all of the conclusions drawn or suggested. The fact that the people mentioned hereafter have been most helpful in criticizing, stimulating, and encouraging either the work itself or the preparation of the report, or both, in no way implies that they subscribe to all of the statements made.

Mr. Jonathan Plaskow provided most challenging assistance in the early stages of the work by questioning the experimenter's intuitive concepts and impelling him to clarify them. Mr. Plaskow continued to provide valuable help in a number of ways during the course of the work and made helpful suggestions about the report itself.

Mrs. Richard Suraci graciously contributed her time to the typing and retyping of early drafts. Mr. William Newberry worked over the content of the report page by page, aiding the experimenter in clarifying elliptical concepts, and typed the final draft. He suggested the writing of this report.

Dr. Reuben E. Thalberg was most gracious in criticizing the report and in encouraging the experimenter, and he introduced the experimenter to other members of the medical profession. Dr. William Zeller kindly referred the experimenter to the works of others in the field of sensory deprivation, made helpful criticisms of the report itself, obtaining valuable suggestions from his colleagues and encouraged the experimenter to continue his work. Dr. Julian Mandel afforded the experimenter the benefit of a number of penetrating and challenging criticisms.

[2] Visceral (gustatory and erotic) and kinesthetic senses were included, together with the exteroceptors.

The present investigation was the culmination of many previous experiments by this investigator in ESR and in other techniques to effect the reactivation[3] of crucial repressed memories.[4]

For the purposes of this report, it is necessary to define the term "diversion" as used hereafter. Diversion is a function that involves all techniques of psychological defense. In any individual it can serve to establish, maintain and reinforce the individual's sense of identity (SOI)[5] by recapturing crucial repressed memories. This relieves anxiety, of the causes of which he may or may not be aware.

This investigation was undertaken to test the following hypotheses:

1) ESR gives access to crucial repressed memories.

2) This results in the sensory, motor, perceptual, cognitive and emotional re-integration. As Freud said, "The hallucinations of hysteria and paranoia as well as the visions of mentally normal persons I would explain as corresponding, in fact, to regressions, *i.e.*, to thoughts transformed into images, and would assert that only such thoughts undergo this transformation as are in intimate connection with suppressed memories, or with memories which have remained unconscious" (1).

3. This re-integration produces a reorganization of the individual's SOI, replacing distorted SOI adaptations[6] that have made him feel secure although they were infantile, archaic and primitive.

4. The reorganization may pass through forms of hallucinations that appear meaningless, yet relieve the individual from the repressed memories and from the frustration they represent.

5) If the individual continues the ESR, then the crucial repressed memories will be reactivated. As in conventional analytic therapy, the experience of recalling and reliving the actual, intolerable events and anxieties results in a reorganization of the SOI to the point that it is able to cope with the objective aspects of current circumstances.

In preliminary fashion this experiment began in the early 1940s. It grew out of an acquaintanceship with the insights of Sigmund Freud, and led to a number of questions that departed from his techniques: "What variables make crucial repressed memories so difficult to uncover?" "What variables prevent an individual from psychoanalyzing himself?" "Is it possible to trace attitudes back to their origins?" "Why do some people who are bed-ridden for long periods experience a degree of renewal of the sense of life?" "What makes solitary confinement so dreadful to prisoners?" And finally, "What factors operate in an individual's present life that make the recall of crucial events so difficult?" This last question proved the most fruitful of all; after many investigations it was possible to suggest that the answer could be found in "the individual's ability in everyday life to substitute one thing for another unwittingly because, unless the individual relinquishes or is deprived of such substitutions he will feel no need to discover the causes that necessitate them." Out of these queries came an effort to learn how an individual could give up these techniques of substitution.

ESR was first conceived of as a partial psychological hibernation. Asceticism, solitude, food control and varying degrees of other deprivations were tried to see what would happen. These failed because of the anxieties, tensions and fears that were produced.

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[3] By reactivation is meant recall and reliving.

[4] Crucial repressed memories are those events and experiences which occur in the formative years. Such memories, which range on a continuum from trivia to trauma, result in the frustration of the sense of identity.

[5] SOI is a continuous, integral, emotional orientation of the self. It is the most vital part of what an individual thinks of when he thinks of himself. It is what the defense mechanisms defend and, to a greater degree, what psychogenic illness defends.

[6] An adaptation is anything which contributes to the SOI or its development.

In the summer of 1961, the writer underwent ESR for a period of seven weeks, during which time he maintained an almost absolute isolation from the world and from his familiar sensory impressions.

PROCEDURE

Prior to the experiment proper, a two-week period of preconditioning was undertaken, in which customary day-to-day activities were much restricted. A quiet, restful and sedentary routine was followed, with very little muscular exercise, a simple but adequate diet, and at least ten hours of sleep each night.

Thereupon ESR was begun. The experimenter followed a regimen of bed-rest and a highly limited diet in a darkened room. He wore wax ear-plugs, adjusted so as not to enlarge the external canal of the ear, to prevent the roaring which would otherwise have occurred. Another set of the same kind of ear-plugs was used to plug both nostrils after the plugs had been treated with a suitable, odorless lubricant (petrolatum). The sense of taste was controlled by a prearranged bland diet of raw, shelled, unsalted nuts (almonds, pecans, walnuts, cashews, brazil nuts and filberts). These were chosen as an ideal experimental diet; their taste was very mild; they were low in sugar and salt content; and they could always be at hand. An average of 40 kernels a day was consumed. During the final three weeks the diet was changed to four pieces of toast a day, together with quantities of fresh orange juice. The experimenter realized that the reduction of stimulation of the other senses such as touch, proprioception, pressure, vibration, and the like, would to a great degree depend on his ability to remain immobile in bed. This was difficult the first few days but became much easier thereafter.

During most of each day the room was darkened. Part of each day was devoted to the rereading of the free associations and the dreams that had been recorded in previous experiments, the study of snapshots that had been collected, and olfactory stimulation by items associated with infancy and childhood. These activities were engaged in only when the experimenter felt able to. At such times the bed light was turned on, but the rest of the room was shut out from view. In this way most familiar visual impressions were kept to a minimum. The goal throughout was to stimulate recall of the past.

During the first three weeks of this regimen the experimenter took one or two hot baths daily. The water temperature varied between 116° and 120° F. (calibrated thermometer). The purpose of the hot baths was to raise the body temperature to 102° F. to 104° F. (oral thermometer).

EXPERIMENTAL VARIABLES

1) *Unrelated variables:* The normal life of the experimenter was interrupted for seven weeks. Of itself this circumstance clearly introduced a number of factors the impact of which is unknown. Further, the fact that the experimenter and the subject were the same individual may raise questions as to the objectivity of this report. The question might take two forms: 1) Did the stress of ESR destroy the experimenter's ability to observe? 2) Did his personal involvement cause him to distort, perhaps unintentionally, what he observed? In this connection he announces his readiness to discuss privately and to show in private the notebooks containing records of his free associations, dreams and other items which provide supporting documentation not suited to public exposition.

With regard to unintentional distortion, it is possible that the influence of certain forces, which the experimenter believes are residual repressive forces, may have caused distortion of which the experimenter is unaware. (See below.)

2). *Experimenter variables:* The experimenter is a person who likes to do original things, willing to take the risks involved in undertaking such an experiment without expert supervision. He is an unmarried professional man, 40 years old at the time of the experiment. He served in the armed forces for five years and entered college in his thirties.

3) *Quantity, modality and pattern of environmental stimuli:* Results of the writer's earlier, unpublished experiments in this area had suggested that ESR *per se* does not produce the various disturbances often attributed to it. At the outset of this experiment, an attempt was made to control the ESR conditions more strictly and completely. After the earlier finding had been confirmed, conditions during the latter part of the experiment were not so strictly and consistently controlled. Tactile and kinesthetic stimuli were reduced to a minimum. Visual and auditory stimuli were reduced greatly, together with olfactory and gustatory stimuli. Other environmental input, such as variation in temperature, pressure and vibration, was reduced by bed-rest. No attention was given to the awareness of time. The time sequences involved with the ESR effects were deliberately ignored and not measured.

4) *Enclosure and restraint:* In bed the experimenter could move as freely as he wished. During the first few days it was difficult for him to remain immobile; thereafter relative immobility became easier to accomplish.

5) *Communication:* After three weeks of ESR, certain panic states occurred, apparently because of the nature of the repressed memories that came to awareness. The experimenter felt unable to refrain from communicating by telephone with an interested friend in another city who was keenly interested in the results of the ESR. Thereafter the experimenter left the ESR situation once a week, for three to four hours, to have dinner with the friend and to discuss the changes observed in the ESR.

6) *Activities:* The experimenter permitted himself to eat nuts, drink orange juice, eat toast during the last three weeks, to drink spring water (which had an unfamiliar taste as compared to chlorinated water), to get up to use the lavatory, to reread free associations and dreams, to sit up to record emotional happenings in his notebooks, to take hot baths daily during the first three weeks, to study snapshots of his early childhood, to stimulate his olfactory sense with certain items associated with infancy and childhood, and toward the end of the experience to leave the ESR situation for a brief period to have dinner with an interested friend.

7) *Duration:* At the outset the writer had no preconception as to how long the experiment would last: the duration depended on his ability to tolerate the hallucinations, the bizarre effects, the anxieties, the tensions and the fears resulting from it. He was, of course, free to end it at any time. At the beginning he was strongly aware of the risks he was taking (and also of the fact that his vacation time was being used for the experiment). Yet these feelings occurred in conjunction with the reactivation of crucial repressed memories. They could have been rationalizations to hasten the end of the experiment.

8) *Physiologic Factors:* Previous (unpublished) experiments indicated that limitations of sugar, salt, acid, base input, and erotic control, apparently intensified and hastened the effects. Two weeks prior to this ESR experiment proper, he preconditioned himself for the ESR by limiting the sugar, salt, acid, and base input; by reducing muscular exertion to a minimum; by maintaining overt erotic control; and by becoming completely rested beyond the residual effects of fatigue; but otherwise living as "normal" a life as possible.

RESULTS CONFIRMING THOSE OBTAINED BY OTHER INVESTIGATORS

Sensory, motor, perceptual, cognitive and emotional disturbances referred to by other investigators (2), and experienced by the experimenter in earlier investigations, occurred to varying degrees both during this ESR experiment and after it was over.

Visual hallucinations occurred, *e.g.*, of the room spinning, expanding and contracting. Geometrical figures, circles, and spirals appeared and made weird changes. Lines, dots, stars, fuzzy scenes and brilliantly vivid colors appeared in panorama. A remarkable panorama of faces and events appeared. Accidental pressures on the eyes resulted in beautiful color schemes changing with tremendous velocity. The sight of black patches resulted in a fearsome feeling of coldness and shivering. Vision appeared in the dark; blurred vision; twitching eyelids; and the alarming experience of losing visual awareness with the eyes open.

Auditory hallucinations occurred: of voices calling, of footsteps, of sounds from childhood. The experimenter vibrated physically with indescribable agglomerations of sounds.

Olfactory and gustatory hallucinations consisted of peculiar, weird smells and tastes. Olfactory sensation seemed heightened, as though the experimenter could smell the food in neighboring houses, the wood in the walls, the plaster, the wallpaper, shoes, printer's ink, and various body secretions.

Physical symptoms included difficulty in walking, in holding the pen for writing, in reading, in talking (the experimenter lost his voice), in putting food into the mouth, and in using various parts of the body. There was severe itching; strong and persistent sensations of "butterflies" in the stomach; feverishness, coldness, shivering; tremors, clonic movements; head throbbing, sharp headaches in various areas of the head; impressions of electrical activity in various parts of the brain, together with sensations of "explosions" within the head; sudden sharp pains in other parts of the body; awareness of enteroceptive movements of the heart beats and peculiar sounds of gurgling associated with the beats; impressions of the warmth of the blood, of the rush of air into the lungs, awareness of the cooling effect of air within the body; joints creaking. Many other indescribable sensory impressions were noted.

There were numerous weird fantasies, peculiar imaginings, the sensation of the experimenter's head floating away, completely apart from his body. Spatial and temporal orientation became confused. The room seemed to have tremendous length and width. It seemed to take an absurdly long time to raise his arm or to get off the bed. Impressions occurred of tremendous velocities and a sense of slow motion.

Illusions took place in which the experimenter imagined that he could deliberately direct his brain functions. It seemed he could visualize the entire brain and also that he himself could travel along with the nerve impulses. Vague impressions occurred of the softness of solid objects, of the sounds emitted by sights, and of the sights given off by sounds. There was a strange sense of familiarity associated with many of these effects.

An alarming experience was the failure to identify his own reflection in the mirror which was distorted by bizarre expressions, an inability to find his way out of the bathroom, or to remember how to turn the knob when he had found the door. These resulted in panic. At times the experimenter felt no desire or need for food or sleep; at other times he felt extreme hunger, thirst, or a sudden craving for various foods or drinks.

The impact of many of these phenomena continued after the experiment was over. The experimenter noticed that he deliberately tried to forget having had them. He did not mention the ESR effects to the interested friend to whom he had told all else, including all of the infantile experiences he had recalled. (He has also had great difficulty deciding to include them in this report.) The impression of them now seems vague, hazy and unimportant, and whether they have been accurately reported and described here is questionable. (He feels he may even have made up some of them.) And there is the vague impression that there may have been other kinds of experiences which the experimenter deliberately forgot and does not want to recall.

NOVEL RESULTS OBTAINED DURING THE COURSE OF THE EXPERIMENT

The first impact of the recovery of crucial repressed memories took place with the rereading of the dreams. (These dreams, recorded over the years, had previously been reread at least ten times.) Terribly painful reactions occurred, seemingly as a result of the experimenter's having separated himself almost completely from the memory of these events. A vivid recall and an apparent reliving of past events and anxieties occurred in their complete context. These memories were at first looked on as the more frightening of experiences described in the preceding section. For example, he recalled his mother's calling to him as though this was happening physically. During this transition period, before he recognized the memories for what they were, he felt that he was suffering from tactile hallucinations which he attempted to act out, hallucinatory conversations, and many other disturbances, the nature of which is too personal to relate in this report.

Some experiences recalled were accompanied by intense anxiety. The experimenter associated this with a feeling of maternal rejection at the age of three and one-half years because of the birth of a sibling. The feeling of maternal rejection had resulted in a partial symbiotic "breakdown." At about that time he became ill with asthma, and again at the age of eight. A re-experiencing of the asthma symptoms occurred. He recalled hearing the doctor who treated him saying to the parents, "You'll have to be very careful with him. Sometimes children go out of their heads when another child is born. He thinks you don't love him any more." The experimenter heard all this and at the same time heard himself continually repeating and gibbering in heartbroken sobs—"You like-a me, Ma?" —in the broken English he used to speak at that age. All this had been completely forgotten, although for most of his life he had felt somewhat hostile to people of his national origin who spoke broken English. The recall and reliving of the experience induced a state of panic; he continued to sob, "You like-a me, Ma?" repeatedly, with intolerable anxiety, hopeless anguish, despondency and a dreadfully familiar feeling of recognizing all this as having happened. A staccato kind of crying in a high-pitched voice occurred, with a "lump in the throat," with cold sweat, heart pounding and with tears streaming down his face. The sobbing lasted a long time and recurred four or five different times.

Subsequently, other experiences involving some neighborhood children were recalled, the nature of which is too personal to relate here, but which undoubtedly influenced him deeply for most of his life. Many apparently trivial and unrelated events came to mind and seemed vaguely disturbing. The experimenter achieved an understanding that the anxieties associated with these experiences were not due primarily to their own painful nature, but were caused by their association with the feeling of having been rejected by his mother.

For two weeks thereafter, the experimenter was stunned into a disbelief that such things had really happened to him in childhood. He felt that he was "making it up," that he was "losing his mind." At this point and out of desperation he communicated with a person, known to him in childhood, who verified some of the more crucial findings, although the individual had been given no hints or clues as to the nature of these memories. A most extraordinary sense of relief resulted, together with a sense of wonder at the experience induced by the ESR. As a result of recalling the experiences, he achieved the insight that most of his life he had been metaphorically repeating the history of these crucial childhood events and had been trying to compensate for the apparent maternal rejection by the kinds of attitudes and drives he had developed during his lifetime. This was accompanied by the feeling and sensation of having "come back to himself": he was aware of a new and quiet feeling of happiness.

During the seven weeks of ESR, the experimenter recorded 800 pages of crucial repressed memories and other events, the existence of which he had never up to that time suspected, and which he had tried to arrive at for at least ten to fifteen years by free associations comprising about 2,000,000 words of material, and by the study of his dreams (some 7,000), and by various other techniques. It must be noted here that in ESR the memories came back with much greater vividness than can be communicated here: he could actually feel the ground under his feet, hear people talking and using words he could not then understand but which he could understand now for the first time. He could feel an itch, or the urge to blow his nose and hear the sound of his doing so.

Proust

RESULTS NOTED SUBSEQUENT TO THE CONCLUSION OF THE EXPERIMENT

Many residual effects became evident after the termination of the ESR, and have continued to occur. The experimenter recognizes that the results reported in this section are only tentative in nature because changes are still occurring. At present the changes seem distinctly for the better; but there is of course no way of knowing whether they will persist or whether they will change.

At the beginning the simplest things seemed difficult. Sense acuity lessened. He found himself weak-voiced and speaking in a higher pitch. He slurred his speech, made many slips of the tongue, and reverted to childish enunciations: "shobul" for shovel, "mudder" for mother, "bot'al" for bottle, "brudder" for brother. He observed an apparent inability to pronounce the letters th, l, r, and s.

The general intensity of the experimenter seemed lessened. His grip on his pencil relaxed; his cursive and manuscript writing ability improved greatly; he began speaking more softly than previously. His attitudes toward people "relaxed."

The experimenter had a remarkable and, to him, unique feeling of "returning" to the human world and nature, which seemed renewed and thrilling. The impact of nature on his senses was utterly marvelous. The sight of it seemed slowed down, as if each particular picture on a film were moving into place in his vision. The trees and their forms seemed sublime, the grass wonderfully green, the smell strong and delightful. It seemed much akin to a child's first impressions of nature with all senses alive. Commonplace happenings seemed vital and renewed: the human voice sounded "angelic." The taste of food seemed ambrosial, although he did not recognize his hunger for food as being as intense as it was before the ESR. Certain muscular awkwardness was corrected. A droop in the fold above his right upper eyelid disappeared.

Shortly after the end of the ESR the experimenter felt that he had been "left up in the air." To his dismay he noticed that he had lost a good deal of former motivation, *e.g.*, in his profession, in his hobbies. His attitudes seemed altered, but it somehow did not matter that he had lost these motivations. In a sense his dismay was intellectual rather than emotional because he could not understand what had happened to him. The interested friend previously mentioned suggested that the experimenter was undergoing "reorientation."

A curious change in the sense of time occurred: "time was out of joint." The experimenter felt as if he had been magically shunted back to the age of 16–20 in time:

the sensations, feelings, thoughts, attitudes, drives and events associated with that age period returned vividly; together with the popular songs of that day, classical symphonies with which he had then become familiar, and the philosophical notions of that age. The change in the sense of time persisted for several months before gradually changing to the present. Yet it is not the same as it was before the ESR.

There were many lapses in memory of recent events; of names of people, in the knowledge of previously simple operations, of events just prior to the ESR, and in particular of his SOI. That is, his continuous, integrated, emotional orientation to himself was basically different yet nevertheless strangely familiar.

Dreams were significantly changed. The people in the dreams now seemed absolutely real and much larger, as compared to previously, when they had been typically insubstantial and shrunken. The experimenter began to dream in color instead of achromatically as earlier.

Of all the results noted subsequent to the conclusion of the experiment, the one most difficult to explain clearly, yet most meaningful to the experimenter, is the realization that he was suddenly aware of parts of his body for the first time; that they actually belonged to him. This might suggest that because of the experiences affecting his SOI, he had hitherto failed to achieve a differentiation of his own body from its surroundings.

DISCUSSION: IMPLICATIONS FOR FUTURE EXPERIMENTS

The novel characteristics of the ESR experiment, together with the unavailability of instrumentation, make this report necessarily subjective. The possibility remains that the results reported were due to unrelated and uncontrolled variables of which the experimenter was unaware. Further, since the procedure involved only one individual, there is an obvious need to repeat this experiment with other subjects, and to instrument the concomitant physiologic reactions of the subjects under rigorous medical supervision in order to validate the results of this experiment. The writer's immediate objective is to repeat this experiment—with himself again as subject—under medical sponsorship, in order to extend the results previously obtained.

This report has been written at considerable length in the hope of stimulating others to explore the possibilities of this technique. The experimenter is convinced that significant changes did occur; he feels that any trained observer who had been in close contact with him would have been aware of profound alterations in behavior.

DISCUSSION: THEORETICAL CONSIDERATIONS UNDERLYING THE RESULTS OF THIS EXPERIMENT

Results of this experiment imply that when an individual is separated to large degree from environmental input, reorganization of his sense of identity must, in some degree, occur immediately; otherwise the individual would abruptly and with devastating effect become aware of his crucial repressed memories. Therefore even a momentary loss of the SOI is to be avoided at all costs. However, a complete reorganization of the SOI will require time. And during such an interval, any or all of the emotional, sensory, motor, perceptual or cognitive functions may operate as a temporary diversion in the form of an hallucination or a delusion.

When a person is apparently losing contact with reality, what may be actually happening is a reorganization of his SOI based on former SOI adaptations (in part or whole), in or out of earlier contexts which were infantile, archaic or primitive. Usually an individual is aware of his present SOI, but he is not necessarily aware of all the adaptations of which it is composed, nor of changes in them; because these changes are typically gradual and imperceptible, and because the older SOI tends to be repressed. Thus the individual who reverts to former SOI adaptations will usually not recognize them for what they are. Nor, for different reasons, will those around him. They will be inclined to conclude that he is "out of his mind"; whereas he is not "out of it," but has merely reverted to an earlier phase of it.

These considerations suggest that the hallucinations and the bizarre effects of ESR may be due simply to the fact that they are out of context. When the former SOI of which they were a part can be recognized, they make sense. It thus becomes possible to see—as Freud has suggested in the quotation cited earlier—how events that are apparently bewildering to the individual actually maintain the security of his SOI through its continuance in an altered but still relevant form.

The ESR experiences suggest that the sense of identity also determines in large measure the individual's sense of reality, his motivation, behavior and personality. It should be stressed that these interpretations are based on actual experiences: the experimenter actually experienced such changes as bewilderment, a sense of the strange and bizarre, a sense of loss of motivation. The subsequent effects were manifested in changes in his behavior, together with the personality changes which he felt himself and which were observed by others.

Further discussion of these techniques and concepts would lead far afield and are therefore deferred until further experimental results are obtained with ESR as a technique for psychophysiologic therapy. It is submitted that if consistent results are found, this technique may prove of value in the treatment of psychogenic illness.

SUMMARY

Environmental Stimulus Reduction (ESR) was continued for seven weeks by one subject, who passed through the usual hallucinations to a new condition in which repressed memories were recalled and relived so vividly that they were at first mistaken for further hallucinations. The hallucinations were identified as secondary diversions that the subject was driven to in an effort to avoid an awareness of his repressed memories when he had been cut off from his primary diversions by the ESR. As a result of recall and reliving of the crucial memories, results were experienced that are felt to be comparable to those achieved by conventional analytic therapy. After termination of the ESR many remarkable residual effects became evident, including changes in the subject's sense of identity, changes in his sense of reality, changes in his basic motivation and basic changes in his behavior.

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